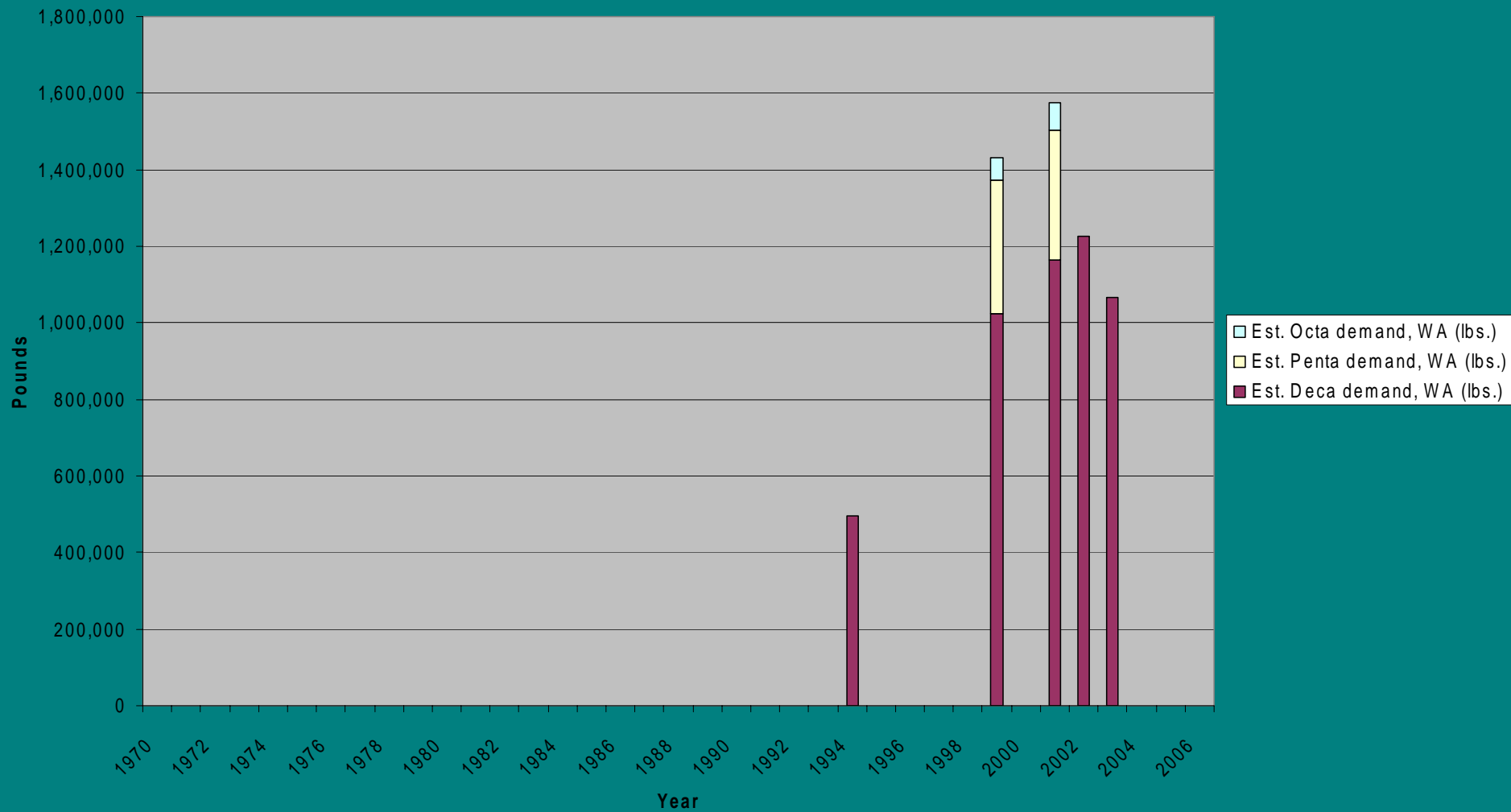


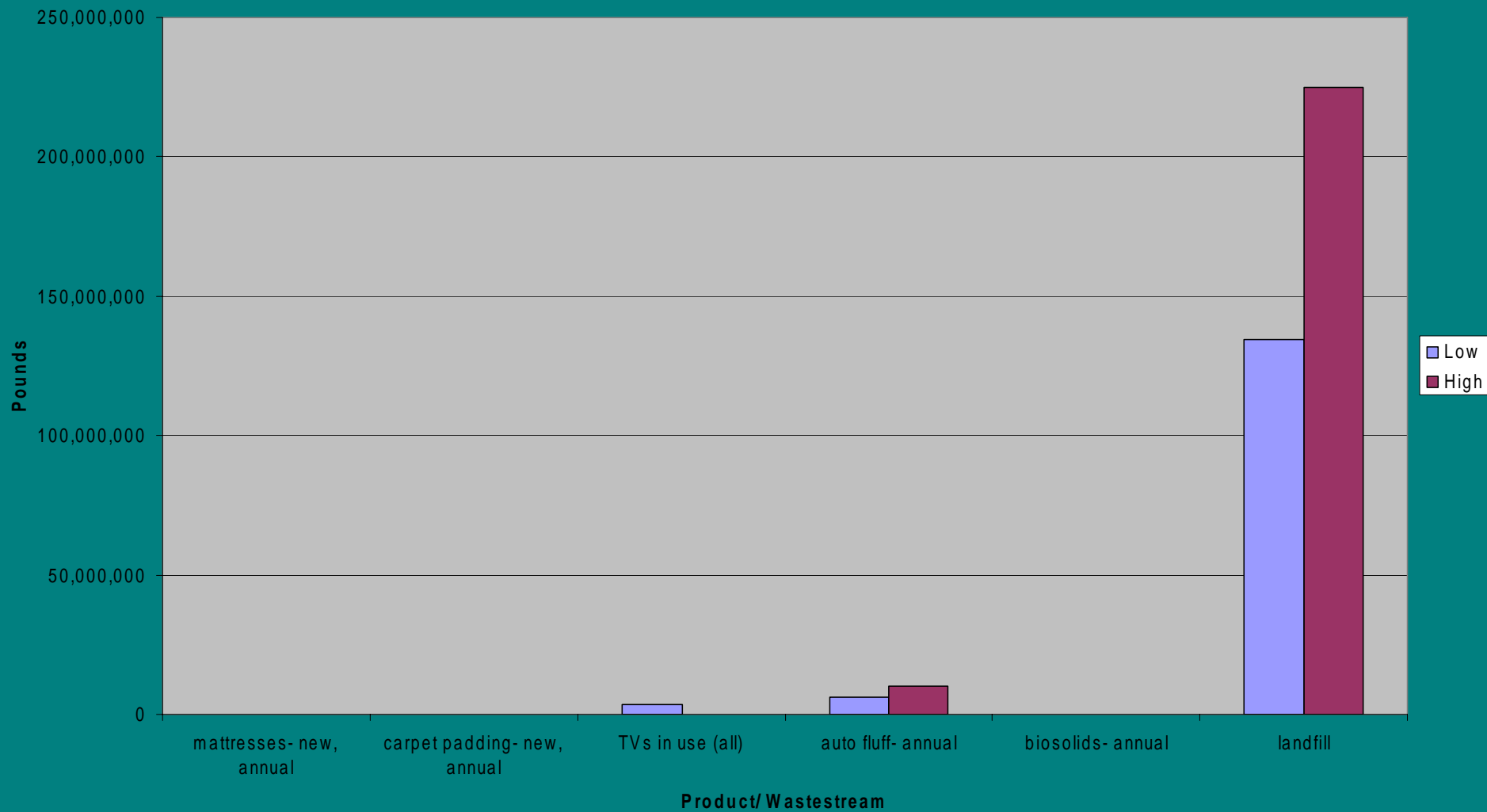
Presentation & discussion of Ecology's key issues

Estimated PBDE Market Demand in Washington

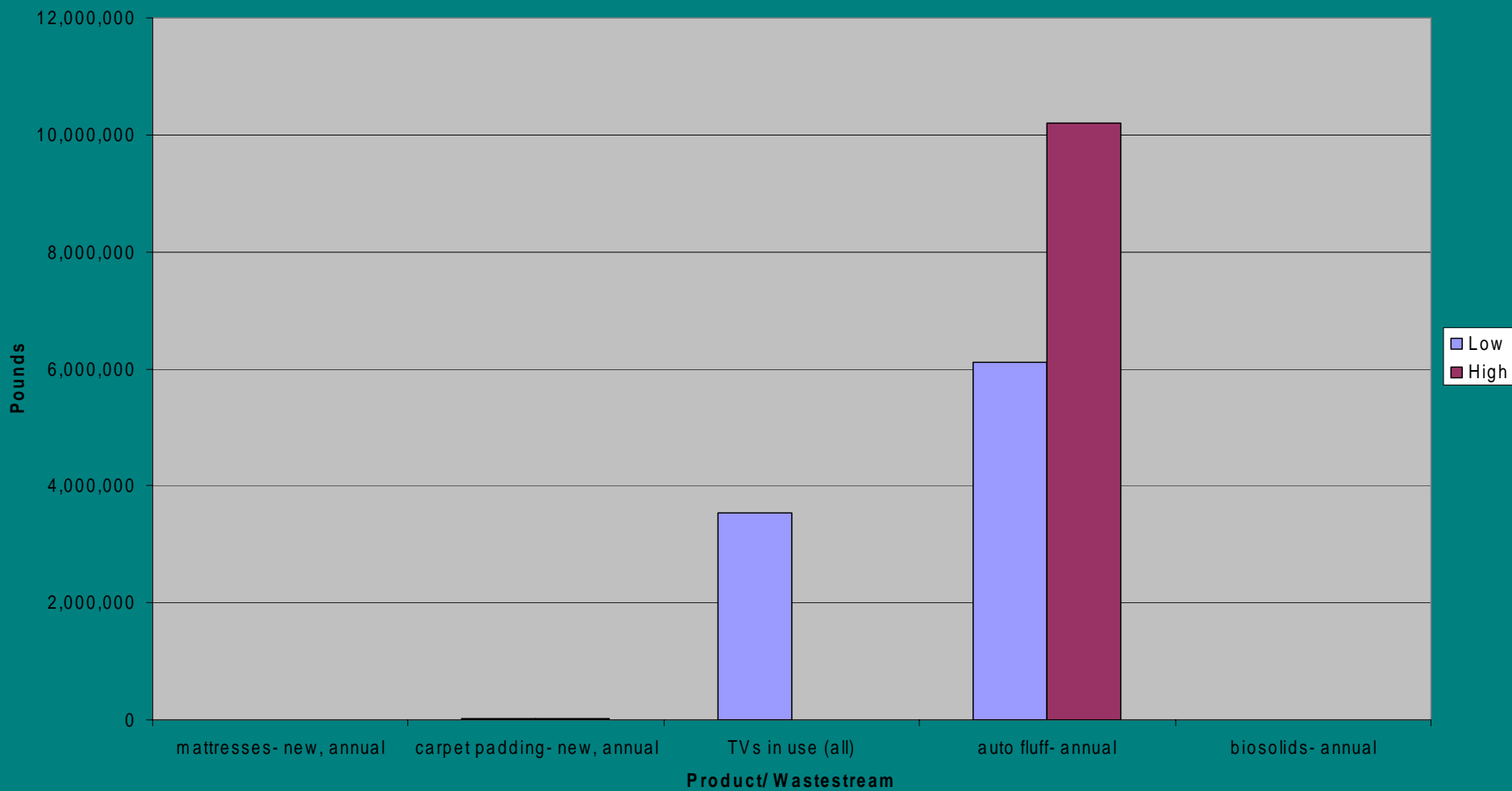


Preliminary data: Do not cite or quote. 3/15/06

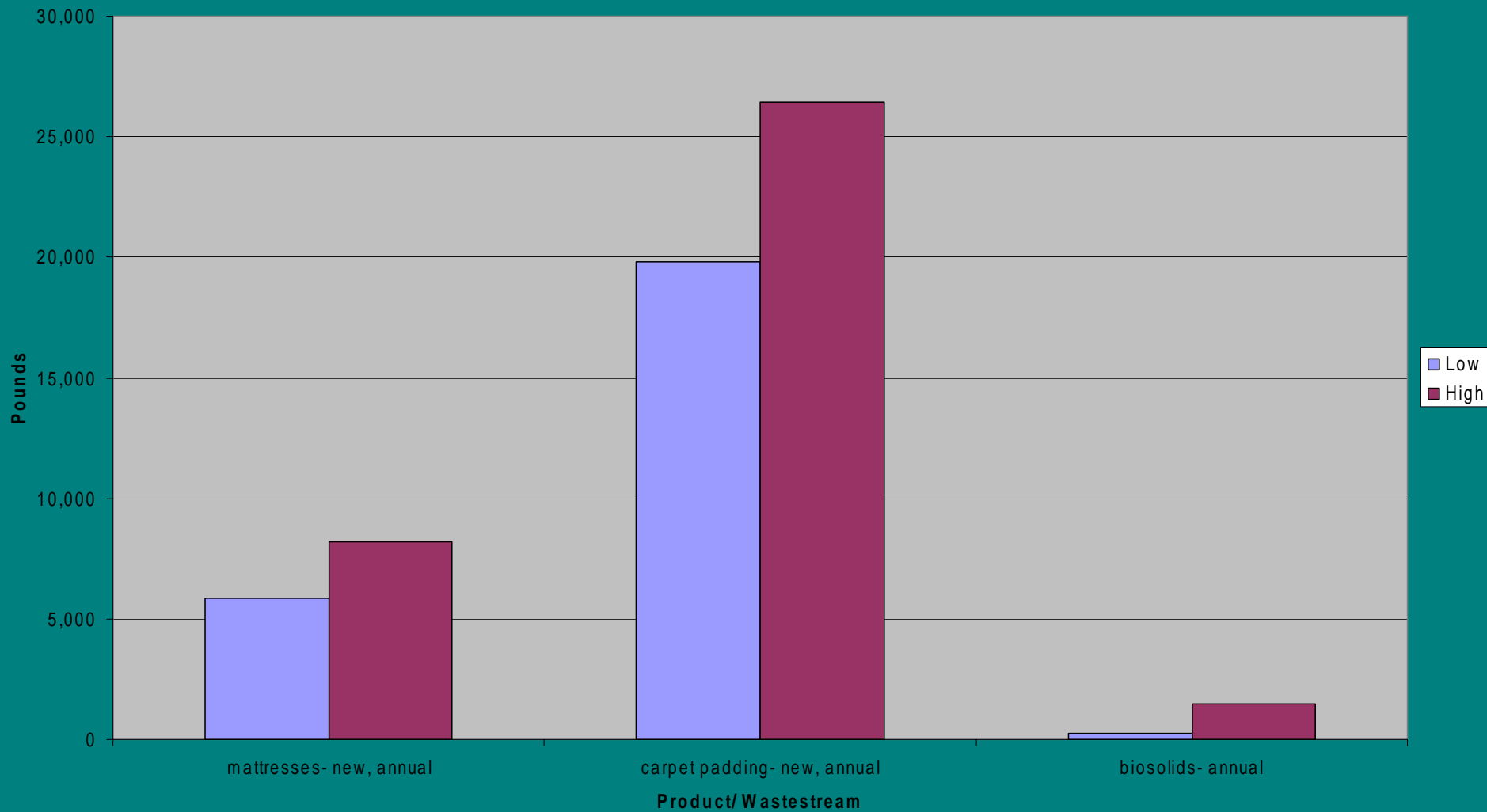
Estimated PBDEs in Washington



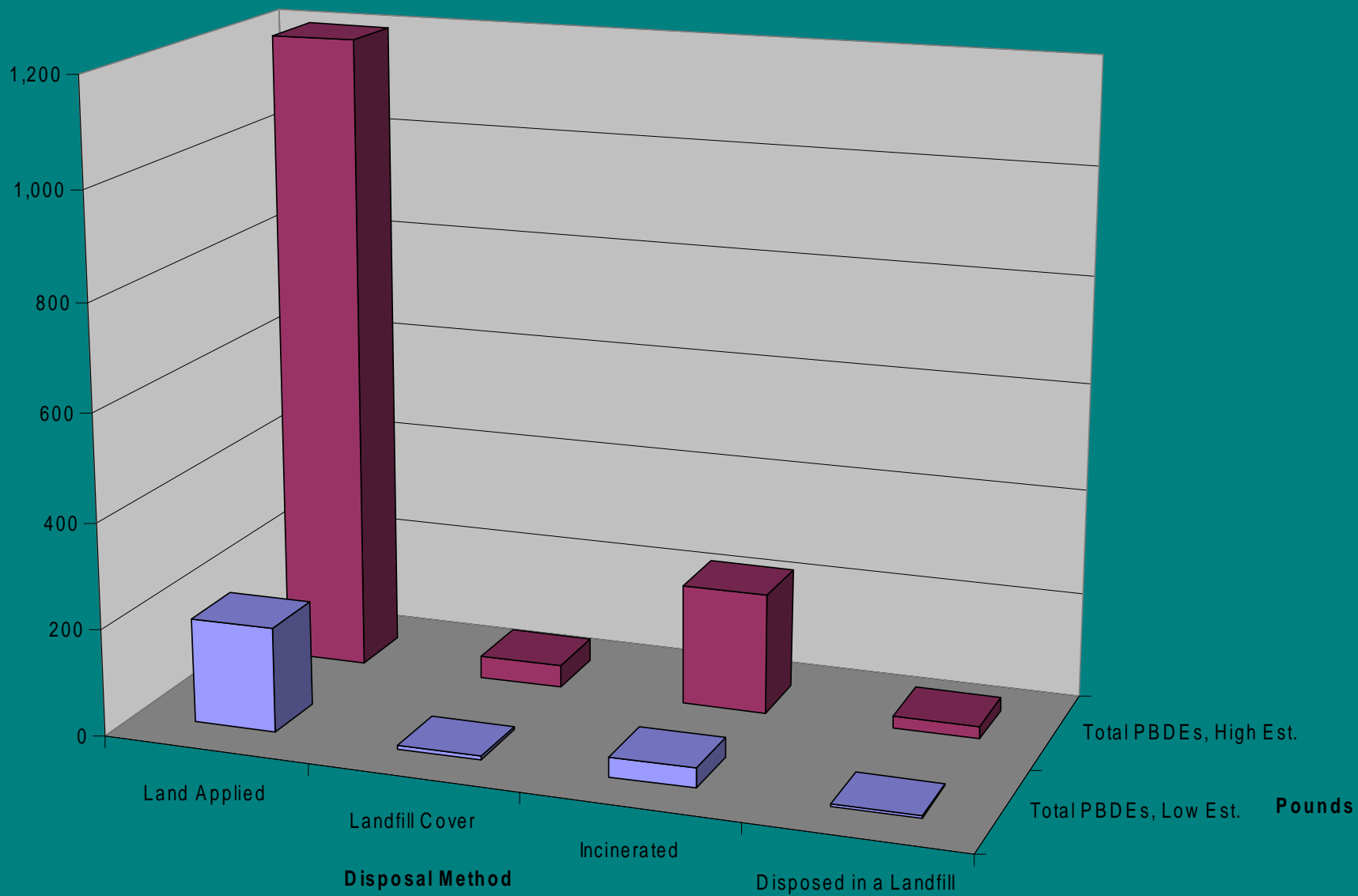
Estimated PBDEs in Washington, excluding Landfills



Estimated PBDEs in Washington, Smaller Sources



Estimated Annual Total PBDEs in WA Biosolids



Preliminary data: Do not cite or quote. 3/15/06

Policy questions under consideration

- Disposal
 - Landfills
 - Auto fluff
- Recycling
 - Electronics
 - Foam
 - Biosolids
- Reuse
 - Upholstered furniture

Landfills

- Current practice
 - Most products containing PBDEs will eventually end up in a landfill
 - Many of these products may designate under the state Dangerous Waste Rule
- Unknowns
 - Do SW landfills adequately contain PBDEs?

Landfills

- Challenge
 - There are limited choices
 - Solid Waste Landfill
 - Monofill
 - Incineration
 - Dangerous Waste Landfill
 - How will we know if any of the above are a problem?

Auto Fluff

- Current practice
 - Generated during recycling of autos
 - Stored temporarily, treated, and then used as daily landfill cover
- Unknowns
 - Adequately contained during temporary storage?
 - Adequately contained in landfill?

Recycling- Electronics

- Current practice
 - Deca is used in a wide range of electronic devices; TV backplates are the largest single use.
 - Plastic that may contain Deca is pelletized and sold for reuse.
 - Preventing the recycling of plastic would adversely impact the economics of electronics recycling.

Recycling- Electronics

- Unknowns
 - How much Deca is released and enters the environment while electronics are in use?
 - How much Deca is in the casing of electronics being recycled?
 - Does plastic recycling impact the health of workers in the recycling industry?

Recycling- Foam

- Current practice
 - Foam is recycled into rebonded carpet padding, which currently contains an average of 0.12 – 0.13 percent Penta.
 - If the foam was not recycled, it would be placed in landfills.
- Unknowns
 - Does the Penta escape during use?
 - Does foam recycling impact the health of workers in the recycling industry?

Biosolids

- Current practice
 - Most biosolids in Washington are land applied.
 - PBDEs in biosolids can likely enter the food chain as seen in a recent study with earth worms
- Unknowns
 - Have reasonably good estimates for this area, though not based on Washington sampling.

Upholstered Furniture

- Current practice
 - Upholstered furniture, which may contain Penta, is often sold for reuse through charities
- Unknowns
 - Know nothing about exposure to Penta in relation to aging foam both for purchasers and individuals in the industry.

Research & data collection efforts

- Limited funds (\$30,000) to do targeted sampling- initial priorities are landfills and auto fluff. In process of developing preliminary:
 - Data objectives
 - Sampling plan
- Secondary research
 - Literature review
 - Extrapolation of data over time and by scaling to population